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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/542,131	07/12/2005	Hanns-Ingo Maack	DE 030021	8727
24737 7590 04/23/2008 PHILIPS INTELLECTUAL PROPERTY & STANDARDS P.O. BOX 3001 BRIARCLIFF MANOR, NY 10510				
EXAMINER				
GAWORECKI, MARK R				
ART UNIT		PAPER NUMBER		
2884				
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**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

### Office Action Summary

**Application No.**

10/542,131

**Applicant(s)**

MAACK, HANNS-INGO

**Examiner**

MARK R. GAWORECKI

**Art Unit**

2884

**Period for Reply** -- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 12 July 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-10 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-10 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 12 July 2005 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/5506)
- Paper No(s)/Mail Date 7/12/05, 10/31/06
- 4) ☐ Interview Summary (PTO-413)
- Paper No(s)/Mail Date \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_

## DETAILED ACTION

### ***Claim Rejections - 35 USC § 112***

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claims 1-10 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

With respect to claims 1, 2, and 10, the term "border column" is indefinite, specifically when the claims specify "from border column to border column". It is unclear which "border columns" are connected by the lines. The examiner would note that not every line shown in the drawings connects the columns on either extreme of the matrix, which is what "border column" is understood to mean.

With respect to claim 7, it is unclear what is meant by "...has a second set of access lines, which access lines pass through the array..."

Claims 3-6, 8, and 9 are rejected for reasons of dependency upon claims 1 and 2.

### ***Drawings***

3. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the term "each access line runs in a zigzag fashion along diagonals of the array from border column to border column" must be shown or the feature(s) canceled from the claim(s). The drawings currently show the zigzag arrangement, but do not show all the lines to be connected

from one border column to the other (for instance, the line extending from F<sub>82</sub>). No new matter should be entered.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

***Claim Rejections - 35 USC § 103***

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 1, 2, 4, 6, and 8-10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wang ("Novel Routing Schemes for IC layout, Part I: Two-Layer Channel Routing", cited by applicant), in view of Noguchi (2002/0109658).

With respect to claims 1, 2, 9, and 10, Wang discloses a number of methods for routing wires including zigzag arrangements (See Figs. 8 and 9) among a matrix (introduction). Wang does not disclose the specific types of devices in which this routing system is used. Noguchi shows a display pixel array including a set of signal lines and a set of scanning lines (paragraph [0040]), but does not show the claimed line routing arrangement. It would have been obvious to use the routing arrangements disclosed by Wang in any suitable matrix array, such as that of Noguchi, in order to benefit from shortened wire lengths and improved performance, as set forth by Wang (section 3.5).

With respect to claim 4, Noguchi, as applied above, teaches the two lines to be used to address individual field elements (paragraph [0064]).

With respect to claim 6, Noguchi, as applied above, shows a driving circuits for both sets of lines wherein the driver circuits are provided at the same border (Fig. 4).

With respect to claim 8, Wang shows an arrangement of wires with stepped diagonals (Fig. 8a).

6. Claims 1, 2, and 5 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wang ("Novel Routing Schemes for IC layout, Part I: Two-Layer Channel Routing", cited by applicant), in view of Zhao *et al.* (5,962,856).

With respect to claims 1, 2, and 5, Wang discloses a number of methods for routing wires including zigzag arrangements (See Figs. 8 and 9) among a matrix (introduction). Wang does not disclose the specific types of devices in which this routing system is used. Zhao shows an imaging pixel array (abstract) including a set of control lines for selecting field elements (19) and a set of data lines for reading from the field elements (20), but does not show the claimed line routing arrangement. It would have been obvious to use the routing arrangements disclosed by Wang in any suitable matrix array, such as that of Noguchi, in order to benefit from shortened wire lengths and improved performance, as set forth by Wang (section 3.5).

***Allowable Subject Matter***

7. Claim 7 would be allowable if rewritten to overcome the rejection(s) under 35 U.S.C. 112, 2nd paragraph, set forth in this Office action and to include all of the limitations of the base claim and any intervening claims.

With respect to claim 7, the prior art, as applied above, does not show a second set of access lines, wherein this second set of access lines pass through the array of field elements in the column direction without making contact with the field elements.

***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to MARK R. GAWORECKI whose telephone number is

(571)272-8540. The examiner can normally be reached on Monday through Thursday, 7:00-5:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Porta can be reached on (571) 272-2444. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

19 April 2008

/David P. Porta/  
Supervisory Patent Examiner, Art Unit 2884